

## **Boot Camp**

Presented by CAPTAIN Leadership

### Welcome New Cadre Members!

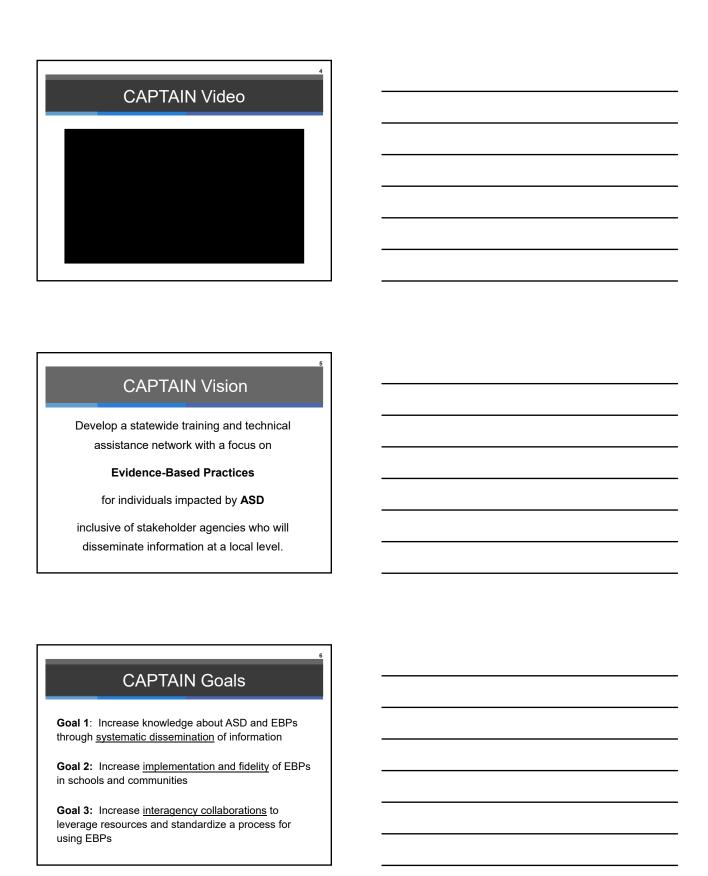
### Cadre members:

- Nominated by SELPAs, Regional Centers, and Family Resource/Family Empowerment Centers
- · Will receive training through our annual summit
- Will learn about the NPDC-ASD and CAPTAIN training materials
- Will assist with the statewide distribution of the EBPs by providing support and training locally

### What is CAPTAIN?

**CAPTAIN** is a multiagency network developed to support the understanding and use of Evidence-Based Practices for individuals affected by Autism Spectrum Disorder across the state.





### All Cadre Must..

- Complete "ASD Across the Lifespan" online class through Coursera (New members only)
- Complete annual CAPTAIN online survey
- Participate in annual CAPTAIN Summit
- Participate in local CAPTAIN collaborative meetings/activities to implement local plans (at least quarterly)

### What are Evidence-Based Practices?

- Are practices for which there is scientifically-based research that demonstrates efficacy for individuals with ASD
- Rely on the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge for intervention and educational activities and programs

### NPDC Definition of EBP:



THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON AUTISM SPECTRUM DISORDERS

"Focused intervention practices that have substantial evidence for effectiveness in promoting positive outcomes for learners with ASD"

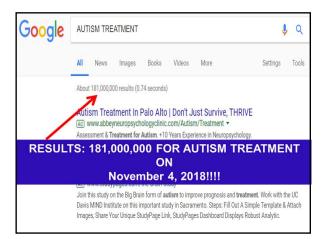
## Why Evidence Based Practices?

- Treatments for ASD are more diverse than any other known disability
- Treatment claims range from amelioration to recovery
- Many interventions with little or no scientific evidence are recommended for individuals with

How many results do you think you would get if you did a Google search for:

### "AUTISM TREATMENT"?







### Knowing of these EBPs:

- helps us know which treatments have evidence of effectiveness and which treatments do not
- allows us to make informed decisions when we select treatments
- provides us with the opportunity to support 
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### Why Use Evidence Based Practices?

- Because many state and federal laws, mandates, education code exist that require us to use evidence-based practices based on peer-reviewed research.
- For example......

## IDEA 2004 \* Sec. 300.320 Definition of Individualized Education Program.....

",,,(4) A statement of the special education and related services and supplementary aids and services, **based on peer-reviewed research** to the extent practicable, to be provided to the child, or on behalf of the child, and a statement of the program modifications or supports for school personnel that will be provided to enable the child--

- (i) To advance appropriately toward attaining the annual goals;
- (ii) To be involved in and make progress in the general education curriculum in accordance with paragraph (a)(1) of this section, and to participate in extracurricular and other nonacademic activities; and
- (iii) To be educated and participate with other children with disabilities and nondisabled children in the activities described in this section;......

### **IDEA 2004**

### Part C: Infants and Toddlers with Disabilities

SEC. 635. REQUIREMENTS FOR STATEWIDE SYSTEM

(a) In General.--A statewide system described in section 633 shall include, at a minimum, the following components:

(2) A State policy that is in effect and that ensures that appropriate early intervention services based on scientifically based research, to the extent practicable, are available to all infants and toddlers with disabilities and their families, including Indian infants and toddlers with disabilities and their families residing on a reservation geographically located in the State and infants and toddlers with disabilities who are homeless children and their families.

SEC. 636. INDIVIDUALIZED FAMILY SERVICE PLAN

(d) Content of Plan .-- The individualized family service plan shall be in writing and contain--

(4) a statement of specific early intervention services based on peer-reviewed research, to the extent practicable, necessary to meet the unique needs of the infant or toddler and the family, including the frequency, intensity, and method of delivering services:

### **Every Student Succeeds Act**

(ESSA) S.1177-290

(21) EVIDENCE-BASED.—

(A) IN GENERAL.—Except as provided in subparagraph

(a) in Chinara.—Except as provided in striplaragraph (B), the term 'evidence-based', when used with respect to a State, local educational agency, or school activity, means an activity, strategy, or intervention that—

(i) demonstrates a statistically significant effect on improving student outcomes or other relevant outcomes based on—  $\,$ 

I) strong evidence from at least 1 well designed and well-implemented experimental study;

II) moderate evidence from at least 1 well designed and well-implemented quasi-experimental study; or

quasi-experimental study; or

(III) promising evidence from at least 1 well designed and well-implemented
correlational study with statistical controls for selection bias; or

(ii)[I) demonstrates a rationale based on high quality research findings or
positive evaluation that such activity, strategy, or intervention is likely to improve
student outcomes or other relevant outcomes; and

(II) includes ongoing efforts to examine the effects of such activity,
strategy, or interventice.

strategy, or intervention.

### **CA ED CODE 56345**

(4) A statement of the special education and related services and supplementary aids and services, based on **peer-reviewed research** to the extent practicable, to be provided to the pupil, or on behalf of the pupil, and a statement of the program modifications or supports for school personnel that will be provided to enable the pupil to do the following:

(A) To advance appropriately toward attaining the annual goals.

(B) To be involved in and make progress in the general education curriculum in accordance with paragraph (1) and to participate in extracurricular and other nonacademic activities.

(C) To be educated and participate with other individuals with exceptional needs and nondisabled pupils in the activities described in this subdivision.

The Lanterman Developmental Disabilities Act

- Is a California law passed in 1969, that gives people with developmental disabilities the right to services and supports that enable them to live a more independent and normal life
- The Lanterman Act is codified in the Welfare and Institutions Code and has been amended several times since its passage, including...

Welfare & Institutions Code 4686.2(b)

Effective July 1, 2009... regional centers shall:

(1) Only purchase ABA services or intensive behavioral intervention services that reflect **evidence-based practices**, promote positive social behaviors, and ameliorate behaviors that interfere with learning and social interactions..."

Health and Safety Code Section 1374.73

(c) (1)(C) (iii) Provides intervention plans that utilize **evidence-based practices**, with demonstrated clinical efficacy in treating pervasive developmental disorder or autism.





### Implementing EBPs Aligns With UDL

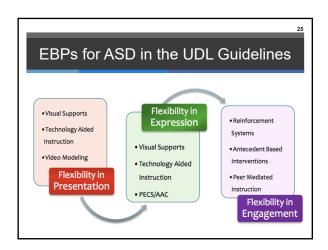
The principles of Universal Design for Learning (UDL) provide a framework for educators to use:

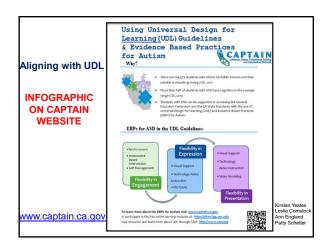
- · multiple ways to teach the content
- multiple ways for students to demonstrate knowledge
- · multiple ways to engage ALL learners

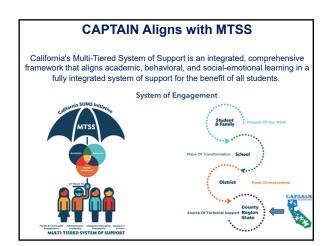


### Using UDL Frameworks & EBPs for Autism

- There are more than 112, 318 students with ASD in CA Public Schools and that number is steadily growing which is 14.5% of total special education population (CDE, 2017)
- More than half of students with ASD have cognition in the average range (CDC, 2016)
- 40% are nonverbal
- Students with ASD can be supported in accessing the general education curriculum and the CA State
   Standards with the use of UDL and EBPs for Autism







# CAPTAIN Aligns with PBIS (Evidence Based Practices for Behavior) INFOGRAPHIC ON CAPTAIN WEBSITE

www.captain.ca.gov

EBPs for Behavior*	EBPs for ASD*					
Effectively design the physical environment of the classroom; maximize structure in classroom.	<ul> <li>✓ Antecedent Based Interventions</li> <li>✓ Visual Supports</li> </ul>					
Develop and teach predictable classroom routines Post, teach, review, monitor, and reinforce a small number of positively stated expectations.	<ul> <li>✓ Visual Supports</li> <li>✓ Trask Analysis</li> <li>✓ Reinforcement</li> </ul>					
Use active supervision and proximity.  Prompt or remind students of expected behavior	<ul> <li>✓ Antecedent Based Interventions</li> <li>✓ Prompting</li> </ul>					
Establish a continuum of strategies to acknowledge appropriate behavior.	✓ Reinforcement					
Make the problem behavior irrelevant with anticipation and reminders.	Antiroadent Based Interventions     Self-Management     Exercise     Cognitive Behavior Intervention					
Establish a continuum of strategies to respond to inappropriate behavior.	Differential Reinforcement of Alternative, Incompatible or Other Behavior     Response Interruption/Redirection     Extinction					
Help student learn appropriate behaviors	Social Stalis Training Social Stalis Training Social Stalis Training Functional Communication Training Discrete Iria Training Modeling PECS Social Response Training Social Narratives Video Modeling Parent-Implemented Intervention					
Determine the function of the behavior to select a FERB (Functional Equivalent Replacement Behavior)	Functional Behavior Assessment     Functional Communication Training					
Expectations and behavioral skills are taught and recognized in the natural context	✓ Naturalistic Instruction ✓ Pivotal Response Training					
Provide a range of evidence based practices that promote active engagement in the classroom	Technology-Aided Instruction and Intervention     Pear-Mediated Instruction and Intervention     Antecedent Based Interventions (e.g., Special Inferests)					
	ain.ca.gov England/Schetter					

National Professional Development Center (NPDC)	National Autism Center (NAC)						
1. 27 Evidence Based Practices	National Standards Project						
2. AFIRM	Report-Phase 2 NSP2						
3. CSESA							
4. EBPs for Young Children							
Released	Released						
March 2014	April 2015						
http://autis.mpdc.fpg.unc.edu http://afirm.fpg.unc.edu http://csesa.fpg.unc.edu http://csetodder.fpg.unc.edu www.captain.ca.gov	www.nationalautismcenter.org www.captain.ca.gov						
www.captam.ca.gov	& CAPTAI						

# Systematic Reviews of the Literature for Evidence Based Practices (EBPs)

- 775 research studies reviewed by National Standards Project from National Autism Center, Phase 1 (NSP1)
- Included research for the years: 1957-2007
- In 2009, identified 11 Established Treatments



# Systematic Reviews of the Literature for Evidence Based Practices (EBPs)

- 2<sup>nd</sup> Review by National Standards Project, National Autism Center, Phase 2 (NSP2)
- 351 articles (ages 0-22) and 27 articles (ages 22+)
- Included studies if the interventions could be implemented in or by school systems, early intervention, home, hospital, vocational. and/or community-based programs or in clinic settings
- Reviewed studies published in peer reviewed journals between 2007 and February of 2012
- In 2015, 14 Established Interventions Under Age 22; 1 Established Intervention Age 22+



# Systematic Reviews of the Literature for Evidence Based Practices (EBPs)

- 175 research studies reviewed by National Professional Development Center (NPDC)
- Included research for the years: 1997-2007
- In 2010, identified 24 EBPs



http://autismpdc.fpg.unc.edu/

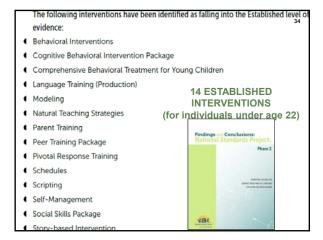
### The National Standards Project-Phase 2 (NSP2)

### Overall Findings for Individuals Under Age 22

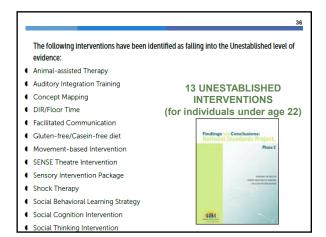
- 14 Established Interventions
- 18 Emerging Interventions
- 13 Unestablished Interventions

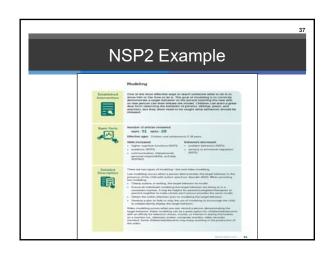


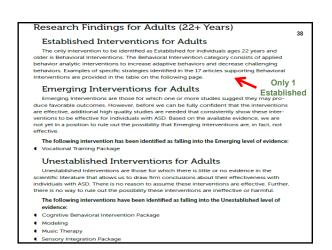














### National Professional Development Center

### In 2014, 27 EBPs:

- 2nd review by NPDC (Mar 2014)
- Included 22 years, 1990-2011
  - 29,101 possible studies →456 studies
  - RCT, quasi-experimental, single case design
- Strength of evidence for assessment
- Based on number & type of studies using each EBP

http://autismpdc.fpg.unc.edu/node/21



### **NPDC Criteria for EBP**



To be considered an EBP for individuals with ASD, efficacy must be established through peer-reviewed research in scientific journals with:

At least two high quality experimental or quasi-experimental group design articles conducted by at least two different researchers or research groups

OR

At least five high quality single case design articles conducted by at least three different researchers or research groups having a total of at least 20 participants across studies

OR

A combination of at least one high quality experimental or quasi-experimental group design article and at least three high quality single case design articles conducted by at least two different research groups

Randomized or Quasi-		Single-subject
experimental Design Studies	Criteria for Qualification As An Evidence-based	Design Studies
Combination of Evidence	Practice	
1+3		

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### 27 Evidence – Based Practices (2014) Pivotal response training Antecedent-based interventions Prompting Cognitive behavioral intervention Differential reinforcement Response interruption/redirection Discrete trial training Scripting Exercise Self-management Extinction Social narratives Functional behavior assessment Social skills training Functional communication training Structured play groups Modeling Task analysis Naturalistic interventions Technology-aided intervention/instruction Parent-implemented intervention Time delay Peer-mediated instruction/intervention Video modeling Picture Exchange Communication Visual supports

## 23 of 27 EBPs Were Researched In School Based Settings

1.	ABI (15 studies)	12. PP (9 studies)
2.	DRO (3 studies)	13. PRT (4 studies)
3.	DTT (2 studies)	14. R+ (8 studies)
4.	ECE (3 studies)	15. SM (3 studies)
5.	EXT (2 studies)	16. SN (10 studies)
6.	FBA (5 studies)	17. SST (5 studies)
7.	FCT (3 studies)	18. SPG (2 studies)
8.	MD (1 study)	19. TA (3 studies)
9.	NI (1 study)	20. TAII (9 studies)
10.	PMII (10 studies)	21. TD (5 studies)
11.	PECS (3 studies)	22. VM (9 studies)
	` ,	23. VS (10 studies)

4 EBPS not yet researched in school settings: CBI, PII, RIR, SC

# Fact Sheets Available for All of the 27 EBPs Definition of the intervention Definition of the intervention Age range of participants Age range of participants Age range of participants Type of outcomes it has generated Citations for the specific carticles that provide the specific carticles that provide the evidence of the practice

Evidence-Based Practices Identified by		0		21 0	Estat	Nished Treatme	ents klentified	by the Nation	al Standards I	Project (NSP)		4		46
the National Professional Development Center (NPOC) on ASD	Behavioral Interventions	Cognitive Enhanceral Interventions	Modeling	Natural Teaching Strategies	Farent Training	Peer Training Fackage	Photal Response Training	Schedules	Scripting	Self- management	Social Skills Package	Story-based Intervention	Language Training	Comprehensive Behavioral Treatment for Young Children
Antocodent-based Intervention	×												Language training did not	The NFDC on A3D did not
Differential Reinforcement	ж												emerge as a focused	review comprehensive
Discrete Trial Training	х												intervention by the NFOC on	treatment models.
Extinction	×												ASD, Components of	Components of The
Modeling	x		×										Language Training	Comprehensive Sehevioral
Prompting	- 1	-											overlap with NPDC identified	Treatment of Young Children
Reinforcement	X								0				practices that may support	overlap with many NPOC
Response Interruption/Redirection	x												language production, such	identified
Scripting	×								X				as modeling, prompting, and	ACHRES
Task Analysis	2												reinforcement.	
Video Modeling	x		x											
Time Delay	×	-												
Cognitive Sehavioral Intervention		ж												
Naturalistic Intervention				х										
Parent Implemented Intervention					×.									
Peer-mediated Instruction & Intervention						х								
Pivotal Response Training							- 1							
Self-management										×				
Social Narratives												×		
Social Skills Training											. X			
Visual Supports								X						
Exercise	Complete was in	fentified as an en	merging practice	by the NSP.										
Functional Behavior Assessment	The NOP did no	ot consider Funct	ional Behavior A	CONTRACT ACR	ategory of evide	nce-based practic	(A.)							
Functional Communication Training	Functional Con	nnunication Trai	ning was identif	led as an emergin	ng practica by th	4107.								
Picture Exchange Communication System	Flour Exten	ge Communicati	on System was i	dentified as an en	merging practice	by the NSP.								
Structured Play Groups	The NSP did no	ot consider Struct	tured Play Group	n as a category o	f evidence-base	d practice.								
Technology-aided Instruction & Intervention	Technology-sic	ded Instruction a	nd Intervention	ues identified as	an emerging pr	ectice by the NSP								

# How to Select EBPs? CAPTAIN Recommends:

- Use 27 EBPs from NPDC
- Use 14 Established Interventions for Ages 0-22 from NAC
- Use 1 Established Intervention for Ages 22+ from NAC



# National Clearinghouse on Autism Evidence and Practice

- National Clearinghouse on Autism Evidence and Practice (NCAEP) was formed with the purpose of providing a continuation of the NPDC critical reviews
- NCAEP will review research studies published in the last five years (2012-2017) which examine the impact of behavioral, educational, clinical and developmental practices and service models used with individuals on the ASD from birth through age 21

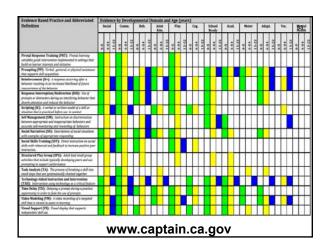
Hopes to publish a report in 2018

### Selecting an EBP

- EBPs are used to advance goals which are tied to standards
- Ask: What is our goal/objective targeting?
  - Consider the specific IEP goals and related objectives
- Ask: What are our options?
  - Look at the domain that the specific goal relates to

# 27 EBPs Matrix Available on the CAPTAIN Website English and Spanish! www.captain.ca.gov The CAPTAIN Summit Resources CAPTAIN Summit Resources Guida Links August Indiana International And Table Links Internationa

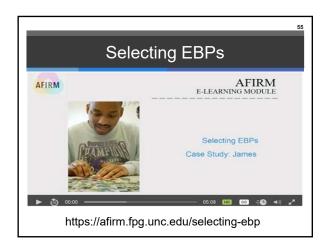
Evidence Based Practice and Abbreviated								d De				je (pr	rae's			3		-					-			-				
Definition		Social		Social		Сания.		Bek			Juliet . Alta.		Play Cag.			School		Acad.			Muter			Adapt.		Voc.			52 <sub>st</sub> fruith	
		9-1+	1911	:	15-22	8-6	91.9	15-22		15-22	0.0	***	15-22		15.22	9.4	91.9	15-11	0.0	15.22	0.0	*1.0	15-33	9-8	15.22	0-0	9.98	15-33		
Antecedent Based Intervention (ABI): Arrangement of events preceding an interfering behavior to prevent or reduce accuming.				Ī		Ī							T			9		T					T		Ī	T		T	T	
Cagaditive Bultarioral Intervention (CBI): Justiceture on cagaditive procuses leading to changes in Automier	П	ı	Т	Г	Г	П	П	Г	Т	П			Т	Г	Г		П	Т	Т	Г		П	Т	T	Г	Г	П	Т	T	
Differential Beinforcement of Alternative, Incompatible, or Other Behavior (IRA, 1,10): Consequences provided for derived behaviors that reduce the accumence of interfering behaviors			Ī			I																								
Discrete Trial Teaching (DTT): Instructional process of repeated trials, consisting of instruction, response, and consequence.		ı		ı		П			ı	П			Τ			ı		ı	ı					I	Γ				I	
Exercise (ECE): Antecedent feomi-physical exercises to reduce deterficing behaviors or durence appropriate behaviors						Ī							T	T		Ī			Ī										T	
Extinction (EXT): Assumed of existing reinforcement or order to realize an interfering behavior	П	Ī	Т	Г	Г		П	Г	Т	П		Т	Т	Т		П		Т	Т	Г	П		П	ı	Г	Г	П	Т	Т	
Functional Behavior Assessment (FBA): Systematic protocol designed to identify contingencies that maintain an interfering behavior					Г			ľ	T				T	Γ		Ī		1	I	Г					Γ	Γ		T	Т	
Function Communication Training (PCT): Replacement of an interfering behavior with communication that occumpitates the same falcition		Ī		Γ	Ī	Ī	Ī	I	Τ	П	Ī		T	Τ		Ī		T	T				٦	Ī	Ī	Г	П	T	Т	
Medeling (MD): Demonstration of a desired behavior that results in skill acquisition through learner institution				Ī					Г	П			Τ	Т		Ī		Ī	Г		П			T			П		Т	
Naturalistic Intervention (NI): Intervention strategies that occur with the learner's typical actings and rectines									Г				Τ	Γ			П						I	I	Τ			Т	Τ	
Parent-Implemented Intervention (PIE): Pervet delivered intervention learned through a structured parent making program																												I	Ι	
Peer-Mediated Instruction and Intervention (PMI): Typically developing peers are trought strategast that increase social investig apportunities in natural analysisments																														
Picture Exchange Communication System (PECS): Systematic 6 phase protocol tracking the oxilange of natures between communication partners				ſ	Γ	П	1	T	Γ	П			ſ	Γ				T	ſ				T	T	Γ	Γ		T	Γ	



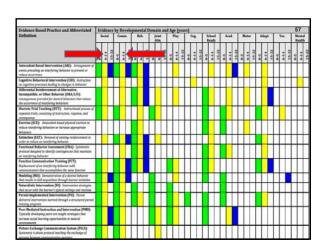
## Selecting an EBP

Next, make a decision based on:

- The skills being taught
- Your professional wisdom
- The learner's learning style
- The learner's temperament
- The learner's interests and motivators
- Supports already in place
- History of what has and hasn't worked



# Goal: Lucia (age 8) will respond to peer's questions and comments with eye contact and appropriate phrases or sentences. What is the goal we are targeting? What are the options?



# Implementation Fidelity is Critical! What does this mean? "Implementing an intervention in the same manner in which it was done in the evidence-based research" The MATICHAL PROFISSIONAL DEVELOPMENT CONTR CHI

# Implementation Fidelity is Critical! How implementation fidelity achieved: 1. Use Implementation Checklists for the EBP to capture fidelity of implementation 2. Refer to EBP Fact Sheets 3. Use AFIRM self-learning modules on EBPs 4. Attend training on the EBPs 5. Access coaching on the EBP until fidelity is attained

AUTISM SPECTRUM DISORDERS



### **FREE High Quality Training:** <u>Autism Focused Intervention Resources and Modules</u> (AFIRM) Designed to help you learn the step-by-step process of planning for, using, and monitoring EBPs with learners with ASD from birth to 22 years of age There's a Learning Module for each of the 27 EBPs AFIRM Autism Focused Intervention Resources and Modules <sup>on</sup> www.captain.ca.gov http://afirm.fpg.unc.edu/afirm-modules

Autism Focused Intervention Resources and Modules: AFIRM



AFIRM Autism Focused Intervention Resources and Modules

- In each module:
  - Key components of an EBP including various ways to use it
  - Behaviors and skills that can be addressed using the practice
  - A step-by-step process for applying the practice
  - Downloadable resources

### Professional Development Certificate

CEUs count for: BCBA Type 2 ASHA CCCs

### Certificate Track

Case examples demonstrating the use of the EBP

Multimedia presentation

Pre-test required

Post-assessment required

Evaluation required

### Non-Certificate Track

Case examples demonstrating the use of the EBP

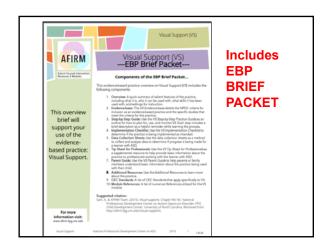
Multimedia presentation

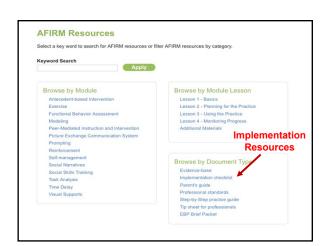
Pre-test required

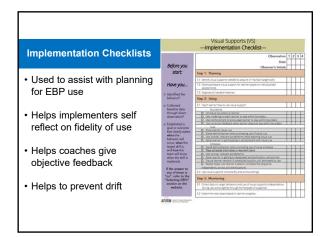
Post-assessment optional

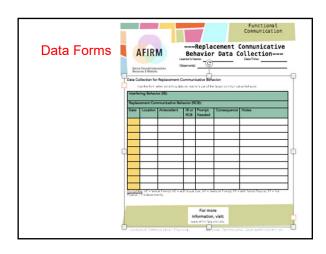
Evaluation optional

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### LTSAE Materials

Designed for use by:

### Parents

Books, growth chart

### Professionals

- · How to discuss milestones
- Tip sheets

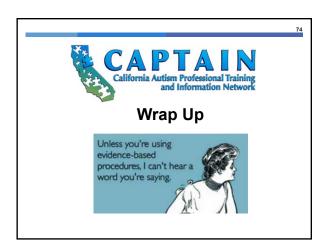
Parents and Professionals

Tracking tools

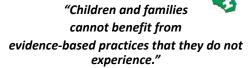


http://www.captain.ca.gov/LTSAE-brochures.html  Leanthe Signs. Act Early.  To work of any other start, and the start of th	CAPTAIN	Regiona	al Brochures	
Family was compared, the control of	Learn the Signs. Act Early.  The juvine of our width may be juve to child here in the part of the signs of the part of the signs of the part of the pa	Special Section and Freshold (MA) Searment Sent War & State Service STAR Searment Sear War & State Search STAR Searment Search S	TrackYour Child's Developmental	
The state of the s	and the widels five greater September Area, two is when you can call the first an expect.  Present Variety and Montaine Collection (Price Area) Collection (Price Area) (Price Area) Collection (Price Area) (Price Area) Collection (Price Area) (Price Are	price on grift (1). As the contract of the con	journey. Use this map of milestones to know what to look for along the way. For parents of children from birth 51.4 years when the distance of the second of	









-Dean Fixsen, NIRN, 2006

